

## REMARKS

### **I. Status of the Application**

Claims 16-35 are pending in this application. In the August 8, 2006 Office action, the examiner rejected claims 27 and 28 under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent No. 6,780,675 to Seyyedy ('Seyyedy'). In addition, the examiner rejected claims 16 and 29 under 35 U.S.C. § 103(a) as allegedly being obvious over Seyyedy in view of U.S. patent No. 6,843,421 to Chhor et al ('Chhor'). Furthermore, the examiner rejected claims 17-26 and 30-35 under 35 U.S.C. § 103(a) as allegedly being obvious over Seyyedy and Chhor in view of U.S. Patent Application Publication No. 2001/0045686 to Thummel ('Thummel').

In this response, applicants have amended claim 27. As set forth below, applicants respectfully traverse the examiner's rejection of claims 16-35.

### **II. The Rejections Under 35 U.S.C. § 102(e) Should Be Withdrawn**

In the August 8, 2006 Office action, the examiner rejected claims 27 and 28 under 35 U.S.C. § 102(e) as being anticipated by Seyyedy. As provided in MPEP § 2131, "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ 2d 1913, 1920 (Fed. Cir. 1989). In addition, the elements must be arranged as required by the claim. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

The Seyyedy reference does not disclose all the limitations of amended claim 27. As a first example, the Seyyedy reference does not disclose a substrate including a first face and a second face 'wherein the substrate defines a plurality of holes extending between the first face and the second face, the plurality of holes defining voids configured to pass a resin through the substrate'. Instead, as shown Figs. 2 and 3 of Seyyedy, Seyyedy only discloses a passivation layer 216 with a hole that extends only partially through the substrate. The hole 218 of Seyyedy is not configured to pass a resin through a substrate. Thus, for at least this reason, Seyyedy does not disclose all the limitations of claim 27.

In addition to the above, Seyyedy does not disclose the limitation of a 'laminar' substrate as required by claim 27. In the August 8, 2006 Office action, the examiner recited a passivation layer 216 as the substrate. Even if the passivation layer of Seyyedy is considered a substrate (which it is not), there is no disclosure in Seyyedy of the passivation layer 216 being 'laminar'. The examiner only cites Fig. 2 of Seyyedy as suggesting that the passivation layer 216 is laminar, and applicant finds no evidence of a laminar passivation layer in Fig. 2. Accordingly, Seyyedy does not disclose all the limitations of claim 27.

For at least the reasons discussed above, Seyyedy does not disclose all the limitations of claim 27, and the examiner's rejection of claim 27 under 35 U.S.C. § 102(e) should be withdrawn. In addition, claim 28 depends from and incorporates all the limitations of claim 27. Thus, the examiner's rejection of claim 28 under 35 U.S.C. § 102(e) should also be withdrawn.

### **III. The Rejections Under 35 U.S.C. § 103(a) Should Be Withdrawn**

In the August 8, 2006 Office action, the examiner rejected claims 16-26 and 29-35 under 35 U.S.C. § 103(a) as being obvious and unpatentable over some combination of Seyyedy, Chhor and Thummel. Applicants respectfully traverse the examiner's rejection of claims 16-26 and 29-35 under 35 U.S.C. § 103(a), as the examiner has not made a *prima facie* case of obviousness as described in MPEP § 2142 - 2143.

#### **A. Claims 16 and 29**

##### **1. All Claim Limitations Are Not Taught by the References**

In order for the examiner to make a *prima facie* case of obviousness under MPEP § 2143.03, all claim limitations must be taught or suggested by the prior art. In the present case applicant respectfully submits that the examiner has not established a *prima facie* case of obviousness, as all limitations of independent claims 16 and 29 are not taught or suggested by the prior art.

As an example of the above, neither Seyyedy nor Chhor disclose the limitation of 'attaching a first integrated circuit to a first face of a substrate with electrical connection between corresponding contacts of the substrate and the first integrated circuit'. In contrast, Seyyedy discloses a first substrate 102, a passivation layer 216, and a second substrate 202. The passivation layer 216 is not a substrate as required by claim 16. However, even if the passivation layer 216 of Seyyedy were a substrate (which it is not), the passivation layer 216 does not have any electrical contacts. In the August 8, 2006 Office action, the examiner considered leads 104 and 204 to be electrical contacts of the substrate (i.e., the passivation layer 216). However, these electrical contacts are in no

way associated with the passivation layer 216. The only electrical connection in Seyyedy is between the first substrate 102 and the second substrate 202, which, as discussed below, teaches directly away from the claimed invention. Thus, contrary to the examiner's position, Seyyedy does not disclose the limitation of "electrical connection between corresponding contacts of the substrate and the first integrated circuit," as required by claim 16. Furthermore, Chhor also does not disclose at least this limitation.

Accordingly, neither Seyyedy nor Chhor, teach all the limitations of claim 16 individually or in combination. In similar fashion, neither Seyyedy nor Chhor teach all the limitations of claim 29. Therefore, it is respectfully submitted that the examiner has not made a *prima facie* case of obviousness, and the examiner's rejection of claims 16 and 29 under 35 U.S.C. § 103(a) should be withdrawn.

## 2. There Is No Basis in the Art for Combining the References

In order to establish a *prima facie* case of obviousness, there must be some teaching, suggestion or motivation for modifying or combining the references found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. MPEP § 2143.01. "There are three possible sources for a motivation to combine references: the nature of the problems to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art." *Id.*, citing *In re Rouffet*, 149 F.3d 1350 (Fed. Cir. 1998).

In the present case, the source of the examiner's motivation to combine references appears to be the knowledge of persons of ordinary skill in the art. Specifically, in the August 8, 2006 Office Action, the examiner stated that, "It is obvious, at the time the

invention was made, for one having ordinary skill in the art, to modify Seyyedy with the teachings of Chhor et al, for the purpose of creating a memory module.” (See page 3 of the August 8, 2006 Office Action). It is respectfully submitted that this statement by the examiner provides no motivation for combining, but rather simply reiterates the general subject matter of Chhor. Accordingly, this statement is lacking in substance and provides no motivation for combining Seyyedy with Chhor.

When combining references, there must be some evidence or finding “as to the specific understanding or principle within the knowledge of the skilled artisan” that would have provided the motivation to combine references. *See In re Kotzab*, 217 F.3d 1365, 55 USPQ 1313 (Fed. Cir. 2000); also see MPEP 2143.01 citing *In re Kotzab*. In the present case, the examiner has provided no evidence whatsoever of what one of ordinary skill in the integrated circuit packaging art might have known at the time of the invention. Furthermore, the examiner has cited no references suggesting that combining features of Chhor with Seyyedy would be any more than that of Seyyedy alone. No documentary evidence has been provided, no implicit disclosure in any reference has been provided, and no official notice has been taken of any facts outside of the record. Instead, the examiner has only provided a conclusory statement that one of skill in the art would have been motivated to combine Chhor and Seyyedy. Applicant respectfully submits that such speculation by the examiner, without any more evidence, is insufficient to satisfy the examiner’s obligation to establish a motivation to combine references. Absent a clear analysis with supporting rationale for combining references, the Examiner’s conclusion that one of ordinary skill in the art would have found it obvious to combine the references is merely impermissible ‘hindsight.’ *See In re Rouffet*, 149 F.3d 1350 (Fed. Cir. 1998).

Accordingly, for at least this reason, the Examiner has failed to make a *prima facie* case of obviousness, and the examiner's rejection of claims 16 and 29 under 35 U.S.C. § 103 should be reversed.

In addition to the above, Applicant respectfully notes that Seyyedy and Chhor clearly relate to different types of devices. Seyyedy and Chhor could not be validly combined without the benefit of hindsight. Seyyedy and Chhor are vastly different in US and IPC classes. They are directed to solving different and unrelated problems and are in different technological areas. Furthermore, even if Seyyedy and Chhor were combined, the combination would not result in the invention as claimed.

As stated above, the examiner has provided no objective evidence suggesting the desirability of combining Seyyedy and Chhor. Because the examiner has offered no such evidence, because the two references are related to different problems, and because a combination of Seyyedy and Chhor would not result in the claimed invention, the teachings of the references are not sufficient to render the claims *prima facie* obvious. Accordingly, for at least the above reasons, the examiner has provided an insufficient motivation to combine Seyyedy and Chhor, and the examiner's rejection of claims 8-21 under 35 U.S.C. § 103 should be withdrawn.

### 3. There Is No Reasonable Expectation of Success

In going from the prior art to the claimed invention, one cannot base obviousness upon what a person skilled in the art might try or might find "obvious to try" but rather must consider what the prior art would have led a person skilled in the art to actually do. *See In re Tomlinson*, 150 USPQ 623 (CCPA 1966). Accordingly, to avoid the "obvious to

try' allegation when making a *prima facie* of obviousness, the examiner must establish the existence of a reasonable expectation of success. MPEP§2143.02. Such a reasonable expectation of success may be derived from the teachings of the prior art. *See, e.g., In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In the present case, the examiner has not cited any evidence to suggest a reasonable expectation of success. Instead, in the August 8, 2006 Office Action, the examiner merely provides the conclusory suggestion that one might combine Seyyeddy and Chhor "for the purpose of creating a memory module" (see pp. 3 and 6 of the August 8, 2006 Office Action). However, there is no suggestion in the art that the arrangement Seyyeddy and Chhor together would be desirable. Accordingly, the examiner has provided no evidence of any reasonable expectation of success for the proposed combination of Seyyeddy and Chhor. Without evidence of a reasonable expectation of success, the proposed combination by the examiner is no more than an impermissible 'obvious to try' argument. Accordingly, it is respectfully submitted that the examiner has not made a *prima facie* case of obviousness, as the examiner has not shown a reasonable expectation of success for the combination of Seyyeddy and Chhor, and the examiner's rejection of claims 16 and 29 under 35 U.S.C. § 103 should be withdrawn.

In addition to the above, when the prior art teaches away from the claimed invention, there is a suggestion of a lack of *prima facie* obviousness. MPEP§2145; See In re Fine, 873 F. 2d 1071 (Fed. Cir. 1988). In the present case, the examiner has combined Seyyeddy and Chhor. As discussed previously, Seyyeddy does not disclose a substrate with any electrical contacts. Instead, Seyyeddy discloses a passivation layer 216, which would not and does not have associated electrical contacts. The only electrical

connection in Seyyeddy is between the first substrate 102 and the second substrate 202.

This teaches directly away from the teachings of claims 16 and 29. Accordingly, because the prior art teaches away from the claimed invention, it is respectfully submitted that the examiner has failed to make a prima facie case of obviousness, as there is no reasonable expectation of success, and the rejection of claims 1-3 and 8-16 under 35 U.S.C. § 103(a) should be withdrawn.

B. Claims 17-26 and 30-35

In the August 8, 2006 Office action, the examiner rejected dependent claims 17-26 and 30-35 under 35 U.S.C. § 103(a) as obvious and unpatentable over the combination of Seyyeddy in view of Chhor and in some situations, also in view of Thummel. Each of these claims depends from and incorporates all of the limitations of one of independent claims 16 or 29. As set forth above, the examiner's rejection of claims 16 and 29 should be withdrawn. Therefore, for at least the same reasons as claims 16 and 29, the examiner's rejection of dependent claims 17-26 and 30-35 should also be withdrawn.

Additional reasons also exist for the allowance of claims 17-26 and 30-35. For example, all claim limitations are not taught by the combination of Seyyeddy, Chhor and Thummel. In addition, there is no basis in the art for combining the references. Furthermore, there is no reasonable expectation of success. Accordingly, the examiner's rejection of claims 17-26 and 30-35 should be withdrawn for these reasons as well.



IV. Conclusion

For all of the foregoing reasons, it is respectfully submitted that applicants have made a patentable contribution to the art. Favorable reconsideration and allowance of this application, including claims 16-35, is therefore respectfully requested.

In the event applicant has inadvertently overlooked the need for an extension of time or payment of an additional fee, the applicant conditionally petitions therefore, and authorizes any fee deficiency to be charged to deposit account 13-0014.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Russ Fowler", with a long horizontal flourish extending to the right.

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